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Security Vulnerabilities Within Communications Networks: Find It, Fix It, Fund It

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Good morning and thank you to Commissioner Starks for convening this workshop today to discuss this critical challenge in making U.S. communications networks more secure. Thanks also to the whole Commission for acting unanimously last year to open a proceeding into protecting national security through FCC programs. And before going further, I would like to thank my fellow panelists for their work on these issues. Although we may view this issue from different perspectives, I appreciate the opportunity to work among these colleagues to find good faith solutions to what can be a challenging and complex issue.

The Telecommunications Industry Association (TIA) is the trade association representing the manufacturers and suppliers of telecommunications equipment and services. Cyber and supply chain security are key priorities for TIA and our members. TIA has been a prominent commenter in the Commission's pending proceeding that proposes to take actions regarding the Universal Service Fund. In addition, TIA also co-chairs one of the working groups on the Department of Homeland Security's ICT Supply Chain Risk Management Task Force, and we have been working with Congress as there has been a lot of interest on supply chain security issues.

Key priorities

Speed is important. First and foremost, the Commission needs to move **quickly.** Other agencies within the U.S. government have identified a national security issue, and the Commission has a specific role in addressing it and needs to do so. Moreover, as 5G deployments are beginning in earnest, the marketplace needs certainty and the Commission can help provide that. And as the U.S. has been working globally to call attention to these challenges among our allies and partners, leadership by the United States, including at the FCC, is very important.

The Commission has a vital role. Although there has been a lot of activity across the government, we believe the Commission has a unique and vital role to play. In addition to controlling the USF fund, the Commission has expertise in providing financial assistance to small & rural carriers confronting this challenge, and in understanding the economics of rural telecom. The agency should leverage its expertise in that area appropriately.

Congress must provide funding. Congress needs to support the Commission's efforts by providing funding for transition costs in a manner that does not divert funds that would otherwise have supported broadband deployment. For example, TIA strongly supports the U.S. 5G

Leadership Act (S.1625) that was introduced last month by Senator Wicker and four other senators on a bipartisan basis.

Find It

Incentivized data collection. The Commission should begin by collecting information regarding how much problematic gear is currently used. We believe a dedicated pool of funding from Congress would permit the Commission to incentivize the data collection process by simultaneously requiring operators to make disclosures as a condition of receiving replacement funding, while also making clear that such equipment cannot be funded by Commission programs in the future. Applicants should be permitted the opportunity to make submissions under a protective order or using other confidentiality protections, allowing the Commission to obtain a candid and complete picture of the equipment that needs to be replaced.

Evaluation and prioritization. Once all problematic gear has been identified, the Commission can then apply its subject-matter expertise in broadband deployment to evaluate various claims for reimbursement and (if necessary) to determine how to prioritize available funding. To the extent that funding is limited, the Commission should focus on products and services that present the greatest potential national security risk, potentially by addressing questions like "what the equipment is, what is it used for, and by whom."

Attestation. Going forward, the Commission should establish an attestation system to ensure compliance with restrictions on USF funding being spent on problematic equipment.[1] As a condition of receiving USF funding, carriers should attest that they have not used any prohibited products. In turn, manufacturers and suppliers should attest that they aren't selling or using any prohibited equipment or components.

Logic-enabled products and components. In taking the actions above, the focus should be on logic-enabled products and components, since not every manufacturer can trace every screw back to the original metal, but every box maker should be able to ascertain the provenance of their network cards, and (in turn) the chips on those cards.

Fix It

Options. Depending on the specific scenario, operators have many options to have their problematic gear replaced. For wireline equipment, to the extent there is a significant problem – which is unclear – there are many other players in the space who manufacture gear.[2] For wireless base stations, in addition to the three major trusted manufacturers and other promising technologies coming into the market, small and rural operators benefit from an ecosystem that also includes *suppliers* and *installers* who procure their gear from manufacturers and offer

[1] Comments of the Telecommunications Industry Association, filed June 1, 2018 in WC Docket No. 18-89, at 62-63 ("TIA Comments"); Reply Comments of the Telecommunications Industry Association, filed July 2, 2018 in WC Docket No. 18-89, at 39 ("TIA Reply Comments").

[2] TIA Reply Comments at 33-34.

turnkey solutions, particularly for smaller operators.[3] We believe there are no products offered by the problematic suppliers for which comparable market alternatives are not available.[4] Notably, large U.S. service providers do not use gear from the problematic suppliers.

Marketplace effects. Notably, removing problematic gear will not materially impact the marketplace for telecom equipment in the United States or drive up costs, even in the specific equipment market segment for wireless base stations. The problematic manufacturers currently have less than a *one percent* market share in the United States. Although there are a handful of carriers who have this gear – and it is appropriate and necessary to address them – this problem must be understood as assisting a few outliers, not conducting a major overhaul of equipment across rural America.[5]

Downtime and lost revenue. There has been some discussion of downtime and lost roaming revenue, but those estimates are unclear at this point, and/or can likely be mitigated. For example, other major manufacturers publicly advertise their equipment modernization services to carrier customers, and one specifically mentions doing some projects with no interruptions to the customer experience. Third-party suppliers and installers may also provide similar services.[6]

TIA is open to reasonable accommodations can be considered to allow a smooth transition. In addition to dedicated funding, for example, some compliance costs could be mitigated through a narrowly tailored rule and an appropriate transition plan. However, any remedial steps should not undermine the basic objective of promoting national security.[7]

Fund It

Estimates. The number of affected carriers may be quite targeted. While there is no authoritative source of data in the record, TIA has submitted information estimating that for wireless cell sites, there are approx. 13-15 affected carriers and 1,300-1,500 cell sites. The corresponding equipment replacement cost would be on the order of $150 million on the high end, although not counting installation costs. Of course, we recognize the limitations in this estimate, such as that potential wireline gear replacements are not included,[8] and it may be that a fully-incentivized data collection process turns up more than expected, but that is why the process is very important.

S. 1625. As mentioned earlier, TIA supports the bipartisan U.S. 5G Leadership Act (S. 1625, Sen. Wicker) which would provide $700 million. Although there may be disagreements about the cost estimates submitted in the record, that level could potentially be increased, so long as

[3] TIA Comments at 73; TIA Reply Comments at 31-37.

[4] TIA Comments at 74-75.

[5] TIA Comments at 71-73.

[6] TIA Reply Comments at 38.

[7] TIA Reply Comments at 41-42.

[8] TIA Reply Comments at 28-31.

funding is not diverted from USF or other pools of funding for broadband deployment. Notably, S. 1625 would be funded by future spectrum auction proceeds that otherwise would have gone into the Treasury for general (non-telecom) purposes.

Benefits vs. costs. Even if there are some uncovered costs, the Commission cannot lose sight of the benefits.[9] National security is an important goal, along with promoting consumer confidence in secure networks and making sure that small and rural operators (and their customers) are on an equal playing field as large and urban operators who do not use the problematic gear.

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Thanks again to Commissioner Starks and the rest of the Commission, including the staff in the Wireline Bureau and elsewhere, for their work on this issue. I look forward to the discussion.

[9] TIA Comments at 66-71.